REMARKS:

The Office action mailed March 23, 2004 has been received and carefully considered. Reconsideration of the application in view of the following is respectfully requested.

Claims 1 to 9 were rejected as indefinite under 35 U.S.C. 112 in view of certain language used therein. These claims have been amended and are now urged to be definite for purposes of patentability.

The Office action has rejected the Claims as being unpatentable under the doctrine of obviousness double patenting based on Patent No. 6,537,399 and Patent No. 6,610,158. The basis of both of these rejections is that they claim similar "in situ" manufacturing of explosives. While certain claims of the present application are to an "in situ" process, it is urged that the claims distinguish over the cited references and that the double patenting rejection is improperly applied.

In particular, in the process described in '399 patent, the mixer type is a stirrer or static mixer (col. 4, lines 30-31 and col. 4, line 62). However, the mixer used for carrying out the process described in the present application is a rotating mixer (page 9, line 4). A rotating mixer, as called for in Claim 1 allows:

(i) the use of a product in granular form (such as the inorganic oxidant in granular form or the mixture of

inorganic oxidant in granular form and a liquid combustible material);

(ii) the incorporation and trapping of atmospheric air; and

(iii) adjusting the density of the explosive mixture by controlling the amount of air incorporated and trapped into the mixture, so that the composition can be easily adjusted by acting on the process variables, such as the supply flow of the different components and/or the speed of rotation of the rotating mixer as shown in Table 2 (page 13).

None of said features can be implemented in a static mixer since:

a) although a static mixer can incorporate fluids (liquids and gasses) it is unable to incorporate solids (i.e., a product in granular form);

b) in a conventional static mixer, such as that used in '399, both the base product and the gas are introduced into the static mixer from the bottom thereof and the final product (pumpable explosive composition) leaves the static mixer from the top by overflow; so, under such circumstances, the mixer cannot incorporate and trap atmospheric air from the top and; therefore, it is necessary to add a gas stream into the mixer (from the bottom) by injection of gas in order to sensitize the

base product; and

c) the density of the final product is, thus, adjusted by regulating the flow of gas stream added into the stirrer mixer which contains the base product; the gas bubble size is adjusted by varying the energy applied by the mixer to the mixture of the base product and gas stream.

In the present application, sensitization is carried out by trapping atmospheric air and the density of the explosive mixture is easily adjusted by controlling the amount of air incorporated and trapped into the mixture by, for example, regulating the speed of rotation of the rotating mixer. On the contrary, in the '399 reference, sensitization is carried out by injecting gas into the base product through a dosage device and the density of the final product is adjusted by regulating the flow of the gas stream added.

In addition, in order to allow a simple way of adjusting the density of the final product, the use of the rotating mixer is simpler, allows the manufacture of certain mixtures which cannot be manufactured by using a static mixer (i.e., those involving the use of products in granular form) and involves some practical advantages since the installation does not require the use of (i) a reserve of gas, (ii) means for operatively connecting the reserve of gas with the mixer, and (iii) a gas flow regulating

device for controlling gas flow from the reserve of gas into the base product in the mixer. Therefore, it is urged that the claims of the present application are not obvious in view of the '399 patent.

With reference to the '158 patent in comparison to the present application, both inventions also refer to the "in situ" manufacturing of pumpable explosive compositions, but, as in the previous case, the processes involved in each case are patentably distinct with respect to each other.

The main differences between the process described by the present application and the process defined by '158, are the mixer used in each process, the manner the sensitization is carried out in each case and the composition of the base product (or matrix) transported in each case for working each process.

In the process described by '158, the mixer is a stirrer (beater) or static mixer (col. 5, lines 25-26 and Example, col. 5, line 60). In '158, the final product (pumpable explosive composition) is obtained by mixing (e.g., in a static mixer), a water-based oxidizer product which does not contain a fuel (base product) together with a fuel and a gas stream and the density of the final product is adjusted by controlling the gas stream volume. As in the '399 patent, the process described in the '158 patent also requires a reserve of gas, means for operatively connecting the reserve of gas with the mixer, and a gas flow

regulating device for controlling gas flow from the reserve of gas into the base product in the mixer.

However, the mixer used for carrying out the process described by the present application is a rotating mixer (page 9, line 4). The use of said rotating mixer involves the particulars previously discussed as well as the advantages, in comparison with a static mixer, already listed. Therefore, it is urged that Independent Claim 1 of the present application, as well as the claims that depend therefrom are not obvious in view of the '158 teachings.

Furthermore, according to '158, sensitization is carried out by mixing a fuel-free water-based oxidizer product (base product) together with a fuel and a gas stream and the density of the final product is adjusted by controlling the gas stream volume. However, in the present application, sensitization is carried out by trapping atmospheric air and the density of the explosive mixture is adjusted by controlling the amount of air incorporated and trapped into said mixture by, for example, regulating the speed of rotation of the rotating mixer.

Furthermore, the base product (or matrix) transported in the process described in the '158 patent is a water-based oxidizer product which does not contain a fuel (so, the base product is characterized, among other things, by having an oxygen balance higher than 14%). Therefore, in order to obtain the final

product according to '158, it is necessary to mix the base product together with a fuel, which requires the use of a different tank for fuel storage together with means for operatively connecting the tank with the mixer, and a pump flow regulating device for controlling fuel flow from the tank to the mixer.

On the contrary, the base product transported to the process described by present application is a low sensitivity, non-explosive matrix product usually comprising, among other components, an aqueous solution or suspension of an oxidant salt and a fuel. For these reasons, the claims calling for such features are urged to further distinguish from the '158 teachings.

Therefore, it is urged that the process which is the subject-matter of the instant patent application is patentably distinct from the processes claimed in U.S. 6,537,399 and U.S. 6,610,158.

Consequently, it is now believed that Claims 1 and 3 to 15 are allowable and notice to that effect is earnestly solicited.

The Examiner is invited to contact the undersigned by telephone, if prosecution of this application can be expedited thereby.

Respectfully Submitted,

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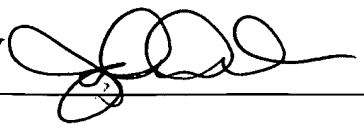
By 

August 23, 2004

(Date of Signature)